IN THE CLAIMS:

1. (Currently Amended) A power amplifier module comprising:

a power amplifier circuit ~~(201)~~ having a power supply regulated output power level;

a power supply transistor ~~(207)~~ coupled to the power amplifier circuit ~~(201)~~ and operable to control a power supply to the power amplifier circuit ~~(201)~~ in response to a drive signal;

a drive circuit ~~(209)~~ coupled to the power supply transistor ~~(207)~~ and operable to generate the drive signal in response to a power level input signal;

characterized by further comprising:

means ~~(211)~~ for determining an operating characteristic of the power supply transistor ~~(207)~~; and

a control circuit ~~(213)~~ coupled to the drive circuit ~~(209)~~ and operable to control the drive signal in response to the operating characteristic.

2. (Currently Amended) A power amplifier module as claimed in claim 1, wherein the operating characteristic is a saturation characteristic.

3. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 1, wherein the operating characteristic is an operating gain characteristic.

4. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 1, wherein the control circuit ~~(213)~~ comprises a negative feedback loop from the means for determining ~~(211)~~ to the drive circuit ~~(209)~~.

5. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 1, wherein the power supply transistor ~~(207)~~ is a Field Effect Transistor ~~(FET)~~.

6. (Currently Amended) A power amplifier module as claimed in claim 5, wherein the control circuit ~~(213)~~ is operable to control the drive signal to substantially prevent the power supply transistor ~~(207)~~ from entering a FET linear region operating state.

7. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 6, wherein the means for determining ~~(211)~~ comprises a sense transistor ~~(329)~~ operable to detect a drain- gate voltage of the power supply transistor ~~(207)~~.

8. (Currently Amended) A power amplifier module as claimed in claim 7, wherein the sense transistor ~~(329)~~ is operable to conduct a current if the power supply transistor ~~(207)~~ enters a FET linear region of operation and the control circuit ~~(213)~~ is operable to control the drive signal in response to the current.

9. (Currently Amended) A power amplifier module as claimed in claim 8, wherein the sense transistor ~~(329)~~ conducts current if a drain-source voltage of the power supply transistor ~~(207)~~ is below a gate-source voltage minus a threshold voltage of the power supply transistor ~~(207)~~.

10. (Currently Amended) A power amplifier module as claimed in claim 8, ~~or 9~~ wherein the control circuit ~~(213)~~ is operable to reduce an absolute amplitude of the drive signal in response to the sense transistor ~~(329)~~ conducting the current.

11. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 8, ~~to 10~~ wherein a gate of the sense transistor ~~(329)~~ is connected to a gate of the power supply transistor ~~(207)~~ and a source of the sense transistor ~~(329)~~ is connected to a drain of the power supply transistor ~~(207)~~.

12. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 7, ~~to 11~~ wherein the sense transistor ~~(329)~~ has a threshold voltage similar to the threshold voltage of the power supply transistor ~~(207)~~.

13. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 7, ~~to 12~~ wherein the control circuit ~~(213)~~ comprises an output transistor ~~(331)~~ coupled to the sense transistor ~~(329)~~ and to a signal junction in the drive circuit ~~(209)~~ such that if the sense transistor ~~(329)~~ conducts current, the output transistor ~~(331)~~ becomes active and causes a signal level at the signal point to be reduced.

14. (Currently Amended) A power amplifier module as claimed in claim 13, wherein the sense transistor ~~(329)~~ is connected to a first input of a current image circuit ~~(333, 335)~~ and the output transistor ~~(331)~~ is connected to a second input of the current image circuit ~~(333, 335)~~.

15. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 11, wherein a supply voltage for the power supply transistor ~~(333, 335)~~ is a variable voltage.

16. (Currently Amended) A power amplifier module as claimed in ~~any previous~~ claim 14, wherein the power supply transistor ~~(333, 335)~~ is a bipolar transistor

17. (Currently Amended) A power amplifier module as claimed in claim 16, wherein the control circuit ~~(213)~~ is operable to control the drive signal to substantially prevent the power supply transistor ~~(333, 335)~~ from entering a bipolar transistor saturated region.

18. (Currently Amended) A power amplifier module as claimed in claim 16, ~~or 17~~ wherein the means for determining ~~(211)~~ comprises a bipolar sense transistor operable to detect a collector- base voltage of the power supply transistor ~~(333, 335)~~.

19. (Currently Amended) A Time Division Multiple Access radio comprising:

means for generating a power ramp signal;

a power amplifier circuit ~~(201)~~ having a power supply regulated output power level;

a power supply transistor ~~(207)~~ coupled to the power amplifier circuit ~~(201)~~ and operable to control a power supply to the power amplifier circuit ~~(201)~~ in response to a drive signal;

a drive circuit ~~(209)~~ coupled to the power supply transistor ~~(207)~~ and operable to generate the drive signal in response to the power ramp signal;

characterized by further comprising:

means for determining ~~(211)~~ an operating characteristic of the power supply transistor ~~(207)~~; and

a control circuit ~~(213)~~ coupled to the drive circuit ~~(209)~~ and operable to control the drive signal in response to the operating characteristic.